

## **PIPELINE MAPPING AND AN INTERRUPTER THEREFOR**

### **ABSTRACT OF THE DISCLOSURE:**

Cathodic protection voltages are used to resist the damage to pipes or cables from electrolytic effects. However, localised fields can lead to stray currents and may result in corrosion and it is therefore desirable to detect and analyse those stray currents. Frequently there are several pipes in the area of interest and so it is necessary to distinguish between those pipes. Therefore the cathodic voltage on the pipes is modulated, with different pipes having different modulations. This modulation may be applied using an interrupter. Orthogonal modulations with non-unitary aspect ratios improve the discrimination between the pipes whilst maximising the energy content of the modulation pattern. The analysis is improved when the interrupters are synchronised with each other and so repeating on the same time-base. This synchronisation may be achieved using an external time signal such as GPS. An interrupter which can be used in this regard is also proposed, and may be powered from the cathodic voltage itself.